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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,529	03/13/2001	Akira Shiokawa	NAK1-BO21	2114

21611 7590 08/25/2004

SNELL & WILMER LLP
1920 MAIN STREET
SUITE 1200
IRVINE, CA 92614-7230

EXAMINER

ANYASO, UCHENDU O

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/805,529

Applicant(s)

SHIOKAWA ET AL.

Examiner

Uchendu O Anyaso

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-23,25 and 27-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3,5,6,12-14,23,25,29-31 and 34-38 is/are allowed.
- 6) ☒ Claim(s) 7,8,11,15,16,19,20,22,27,28,32 and 33 is/are rejected.
- 7) ☒ Claim(s) 9,10,17,18 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. **Claims 1-3, 5-23, 25 and 27-38** are pending in this action.

Claim Rejections - 35 USC ' 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. **Claims 7, 8, 11 and 32** are rejected under 35 U.S.C. 102(e) as being anticipated by *Nagai* (U.S. Patent 6,160,349).

Regarding **independent claims 7 and 32**, Nagai teaches an invention that is directed to an AC type plasma display panel comprising: a pair of substrates; a plurality of discharge pixel cells formed between the pair of substrates; and a pair of sustain electrodes formed on one of the pair of substrates, to which sustain pulses are applied to control discharge at each of the plurality of discharge pixel cells so as to alternatively reverse polarity between the pair of sustain electrodes to make an instantaneous average voltage almost constant at the pair of sustain electrodes during a sustained discharge period for each of the discharge pixel cells (column 3, lines 1-10).

Furthermore, Nagai teaches a gas discharge panel in which a plurality of discharge cells are arranged in the form of a matrix between the pair of substrates (*see figure 12 at scan driver & address driver*).

Also, Nagai teaches a driving circuit which applies a write pulse via a priming pulse (see figure 14A, 15, column 10, lines 12-15) and successively applies a plurality of sustain pulses which alternate in polarity to each of the plurality of discharge cells to perform a sustain discharge in the discharge cells (figures 14A & 15).

Furthermore, Nagai teaches how sustain pulses alternate in polarity (figure 15) and immediately before the leading edge of each sustain pulse, a scanning pulse that is opposite in polarity to the sustain pulse is applied to the discharge cell for a predetermined period of time (figure 15 at *scanning pulse & sustain pulse*).

Regarding **claims 8 and 11**, in further discussion of claim 7, Nagai shows how the absolute value of the voltage of the priming pulse is no smaller than the absolute value of a voltage of the sustain pulse (figure 15).

Claim Rejections - 35 USC ' 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 15, 16, 19, 20, 22, 27, 28 and 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Nagai* (U.S. Patent 6,160,349) in view of *Makino* (U.S. Patent 6,426,732).

Regarding **independent claims 15, 19, 27 and 33** and for **dependent claims 16, 20, 22, 28**, Nagai teaches an invention that is directed to an AC type plasma display panel comprising:

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a pair of substrates; a plurality of discharge pixel cells formed between the pair of substrates; and a pair of sustain electrodes formed on one of the pair of substrates, to which sustain pulses are applied to control discharge at each of the plurality of discharge pixel cells so as to alternatively reverse polarity between the pair of sustain electrodes to make an instantaneous average voltage almost constant at the pair of sustain electrodes during a sustained discharge period for each of the discharge pixel cells (column 3, lines 1-10).

Furthermore, Nagai teaches a gas discharge panel in which a plurality of discharge cells are arranged in the form of a matrix between the pair of substrates (*see figure 12 at scan driver & address driver*).

Also, Nagai teaches a driving circuit which applies a write pulse via a priming pulse (*see figure 14A, 15, column 10, lines 12-15*) and successively applies a plurality of sustain pulses which alternate in polarity to each of the plurality of discharge cells to perform a sustain discharge in the discharge cells (*figures 14A & 15*).

However, Nagai does not teach how a panel display apparatus wherein an absolute value of each of the sustain pulse which is applied to the discharge cell is higher during a first period than a second period. On the other hand, Makino teaches this concept by teaching a PDP wherein a discharge sustaining pulse voltage comprising a preceding high voltage $V1$ of a short duration $t1$ and a subsequent low voltage $V2$ of a long duration $t2$ is applied to common and scanning electrodes of a plasma display panel (*see Abstract, figure 8A*).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Nagai and Makino because while Nagai teaches a driving circuit which applies a write pulse via a priming pulse (*see figure 14A, 15, column 10, lines 12-15*) and successively applies a plurality

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of sustain pulses which alternate in polarity to each of the plurality of discharge cells to perform a sustain discharge in the discharge cells (figures 14A & 15), Makino teaches how an absolute value of each of the sustain pulse which is applied to the discharge cell is higher during a first period than a second period (see Abstract, figure 8A). The motivation for combining these inventions would have been to provide an efficient means of reducing electric energy consumption that results from emissions of the sustained discharges (column 3, lines 10-15).

Allowable Subject Matter

6. **Claims 1-3, 5, 6, 12-14, 23, 25, 29-31 and 34-38** are allowable.
7. **Claims 9, 10, 17, 18, 21** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's amendments and arguments filed July 6, 2004 have been fully considered but are moot in view of the new grounds for rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

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Any response to this action should be mailed to:


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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


Uchendu O. Anyaso

08/21/2004



Art Unit: 2675

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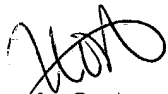
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Uchendu O. Anyaso

08/21/2004


CHANH NGUYEN
PRIMARY EXAMINER